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Hardrock Mining: Issues Relating to Abandoned Mine Lands and to Uranium Mining
Senate Committee on Energy and Natural Resources
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Thank you for the opportunity to participate in this oversight hearing on issues relating to abandoned mine lands (AML) and to uranium mining.

I recently had the opportunity to testify before you regarding mining operations on public lands, and the Bureau of Land Management's (BLM) surface management regulations that have been in force for the past seven years. With tighter mitigation measures and increased bonding requirements in the regulations, the BLM currently holds over $1.1 billion in financial guarantees to cover reclamation costs for ongoing mining operations and even has the ability to establish trust funds upon mine closure to mitigate longer-term environmental issues that may arise. These new stringent controls on mine operations today have helped eliminate the burden of future abandoned mine lands. However, we recognize the scope of the AML problem on public lands, particularly as urban areas encroach on once isolated areas and the increasing risk associated with more campers, hikers, hunters and off-road enthusiasts accessing the public lands. Water quality and supply for a number of communities have also diminished, due to the impacts of abandoned mines. Our current focus is to continue to make progress in addressing reclamation of the highest priority abandoned mine lands. The BLM is committed to carrying out its responsibilities under its revised surface management regulations to ensure this legacy of past practices is not repeated.

Sizing Up Abandoned Mine Lands

The BLM maintains an inventory of known abandoned mines located on the public lands. Most of the sites are abandoned hardrock mines. While there has never been a comprehensive field inventory conducted of all abandoned mines, the BLM is currently reviewing and updating available data. As of February 1, 2008, the BLM's inventory contains 12,035 sites, of which 10,103 will require further investigation or remediation. Much of the data comprises legacy records that are often incomplete. According to our inventory data, there are over 49,192 features (such as open physical hazards and piles of contaminated material) associated with 12,035 sites. We would like to emphasize that the sites with the highest potential for harm to public health and safety have already been identified by the various Federal, State, and Tribal partners. While it is important to continue to characterize all sites, and add additional sites to the inventory, we feel the greatest need is on-the-ground work for those high- priority sites already identified.

Coordination among the various Federal agencies, States and Tribes who manage lands with abandoned mines is critical to obtaining a complete picture of the Abandoned Mine Lands problem and working toward solutions that involve even more partners. While no single database currently exists that fully accounts for the scope of the problem, there is a tool that is available for public viewing that begins to consolidate this information. The Site Mapper tool on the BLM-Forest Service Geocommunicator website is an interactive map the public can access to

graphically display abandoned mine lands and other information from databases managed by the BLM, the U.S. Forest Service, Mine Safety and Health Administration, Office of Surface Mining, United States Geological Survey, Environmental Protection Agency, and the State of California. The tool was launched in October, 2007 , and while there is still work being done to validate the individual databases that feed into the system (for example, some sites have been entered more than once from multiple sources), the tool is a great start. As we continue to improve the accuracy of our data, we are also encouraging states and other partners to participate in using this site to consolidate information.

The BLM and its Federal partners are in the process of developing a new web portal that will enable the public to obtain a more thorough overview and perspective on AML matters and what is being done to address them. This web portal will be activated in about four to six months.

Priorities

BLM works to prioritize mitigation activities on the 12,035 sites. For example, some projects are prioritized on a watershed basis, to enable the BLM to reclaim public land portions of compromised watersheds. Sites located near populous and high use areas also receive high priority. Examples include recreation areas, trails and campgrounds. In establishing priorities for AML reclamation, the BLM and its partners developed and issued an AML strategic plan in March 2006. Overall, sites are divided into physical safety and water quality sites, although there can be overlap. Priority decisions are made site-by-site, based on physical safety factors, including the likelihood of death or injury, high public visitation, accessibility, and proximity to populated areas. Water quality is also considered within the context of threat to public health, safety, and the environment, whether or not the site is located within a State-designated priority watershed, and impacts to BLM-administered lands. Effective partnerships and other sources of funding also enter into the prioritization process.

Of special concern to all of us are the recent AML-related accidents and fatalities, such as incidents where off-highway vehicle enthusiasts and undocumented aliens have fallen into mine shafts. To address these hazards, the BLM has participated in the Mine Safety and Health Administration's "Stay Out - Stay Alive" program since 1999. We have developed a "Stay Out - Stay Alive" video that is available to the public. With MSHA, we are initiating an outreach program that educates people about the hazards of abandoned mines. The BLM also has begun a new partnership initiative called "Fix A Shaft Today!" or FAST. Under this initiative, the BLM hopes to involve recreation and off-highway vehicle enthusiasts, the mining industry, off-highway vehicle manufacturers and retailers, along with the state abandoned mine land agencies from Arizona, California, New Mexico and Nevada. The FAST initiative builds upon years of successful partnership with the Nevada Division of Minerals and the Nevada Mining Association. This effort, carried out in large part by volunteers and in-kind services, set a national BLM record of 118 abandoned mine closures in 2006.

Accomplishments

Last year, the Forest Service and the BLM celebrated 10 years of success with the hardrock abandoned mine lands program. Between 2000 and 2007, the BLM inventoried 5,500 sites and remediated physical safety hazards at more than 3,000 sites. The BLM has also restored water quality at hundreds of sites on thousands of acres. This 10-year milestone was celebrated at a

conference in Colorado, where a field trip highlighted one of our most successful collaborative projects in the Animas River Watershed.

The Animas River Watershed reaches across 186 square miles of Colorado's San Juan Mountains, and is one of two sites selected for remediation pilot projects in Fiscal Year 1997. Over time, the impacts of contaminants, including aluminum, cadmium, copper, iron, lead, and zinc emanating from historic mines and natural sources became environmentally and economically visible; acidity levels in the water rose to levels impairing many fisheries and leaving some streams devoid of fish. Project stakeholders faced the challenge of improving water quality not only for the benefit of local residents and aquatic life, but also to ensure the well-being of the town's tourist and recreational trades. Approximately 50 mining remediation projects were successfully completed within the Animas River watershed. Of the completed projects, including the 19 priority sites, mining companies addressed approximately one-half, Federal land management agencies addressed approximately one-quarter, and the Animas River Stakeholders Group addressed approximately one-quarter. The community is now reaping the benefits of these cleanup efforts, including overall increased water quality and the return of two reproducing species of trout in downstream areas. This, in turn, is beginning to attract more visitors seeking recreation to the area. As the community continues to work together to address the remaining sites, a collaborative initiative among six Federal agencies is helping to revitalize a two-mile stretch of the Animas River corridor through Silverton, recognizing the community's value on tourism as it promotes aesthetic and quality-of-life improvements to the area.

I am pleased to inform you that next month Secretary Dirk Kempthorne will recognize these outstanding accomplishments through a Cooperative Conservation Award. This prestigious Secretarial award recognizes collaborative achievements among diverse parties including Federal, state, local, and Tribal governments; private for-profit and non-profit groups; and other non-governmental entities and individuals.

Aside from the safety hazards and environmental contamination that may exist, abandoned mines can also be significant cultural and historic resources and habitat for bats and other wildlife. The benefits of cleaning up abandoned mine lands make the effort worthwhile. Onsite soil and water quality is often returned to pre-mining conditions. Visitors to public lands are protected from health and safety hazards. Nearby communities enjoy cleaner water, a more diverse and healthy economy, and a better quality of life. Habitat for plants and wildlife is restored, and the aesthetics for both visitors and residents who live nearby are improved.

One of the collaborative clean-up projects involving uranium and vanadium abandoned mine lands is Cottonwood Wash Watershed in southeast Utah. After decades of vanadium and uranium mining, the waters and sediments in the watershed were left with elevated levels of radiation from mine drainage and waste dumps. Project partners faced the challenge of addressing this contamination, which affected the use of local water for drinking, recreation, aquatic life, wildlife, grazing, and agriculture. A Technical Committee, comprised of Federal and state partners, developed a reclamation approach that mitigated the area's physical and environmental hazards in one step: portions of uranium mine dumps located in stream channels were removed and used as backfill material for hazardous openings and face-up areas. Project construction work was spread into seven phases over five years, allowing small and local

contractors to bid on projects, benefiting the local economy, increasing competition, and reducing overall project costs. Ultimately, three local companies were selected to conduct the construction work, which returned $800,000 to the local economy.

Working with the Navajo AML Bureau, the BLM has provided assistance in reclamation of uranium mines on Navajo lands in two states. In the late 1980's, the BLM conducted a two-year inventory of abandoned mines on Navajo lands in the mountains of Arizona. The BLM also worked with the New Mexico State AML Bureau in the 1980's remediating about a dozen uranium sites on BLM land in the checkerboard area east of the Reservation.

Uranium Mining on Public Lands Today

A renewed interest in uranium exploration and eventual production from domestic sources began in Fiscal Year 2003, when Canada's formerly rich uranium deposits were reaching the end of their reserves and began closing down, causing a major increase in demand for new uranium sources for power generation worldwide. New uranium mining claim locations have dramatically increased over the past few years in the states of Arizona, Colorado, New Mexico, Utah, and Wyoming due to the increase in the price of "yellow cake" (i.e., partially-refined ores consisting largely of uranium oxide compounds, primarily U_3O_8). Although the specific minerals are not identified at the time of claim location, we estimate that approximately 40-50 percent of the 92,000 new mining claims in Fiscal Year 2007 were for uranium.

It has been two decades since the BLM has dealt with this level of interest in uranium mining; experts have retired, and new processing techniques have also emerged. In order to effectively and safely manage the processing of these Notices and Plans of Operations, the BLM will be conducting a workshop this summer with the Nuclear Regulatory Commission and state regulatory agencies. The purpose of the workshop will be to determine the role of each agency in processing applications submitted for uranium operations on public lands. The BLM will also be implementing new training on both regulatory and safety aspects of mining, milling and reclamations methods for uranium.

In addition to building knowledge and partnerships, the BLM is also positioning its workforce to budget the requisite time for processing these Plans of Operations. We anticipate that uranium Plans of Operation may draw increased public participation in the National Environmental Policy Act planning process, and we may have to re-allocate resources to respond to that interest.

Conclusion

Thank you for the opportunity to testify. I will be happy to answer any questions you may have on this important issue.